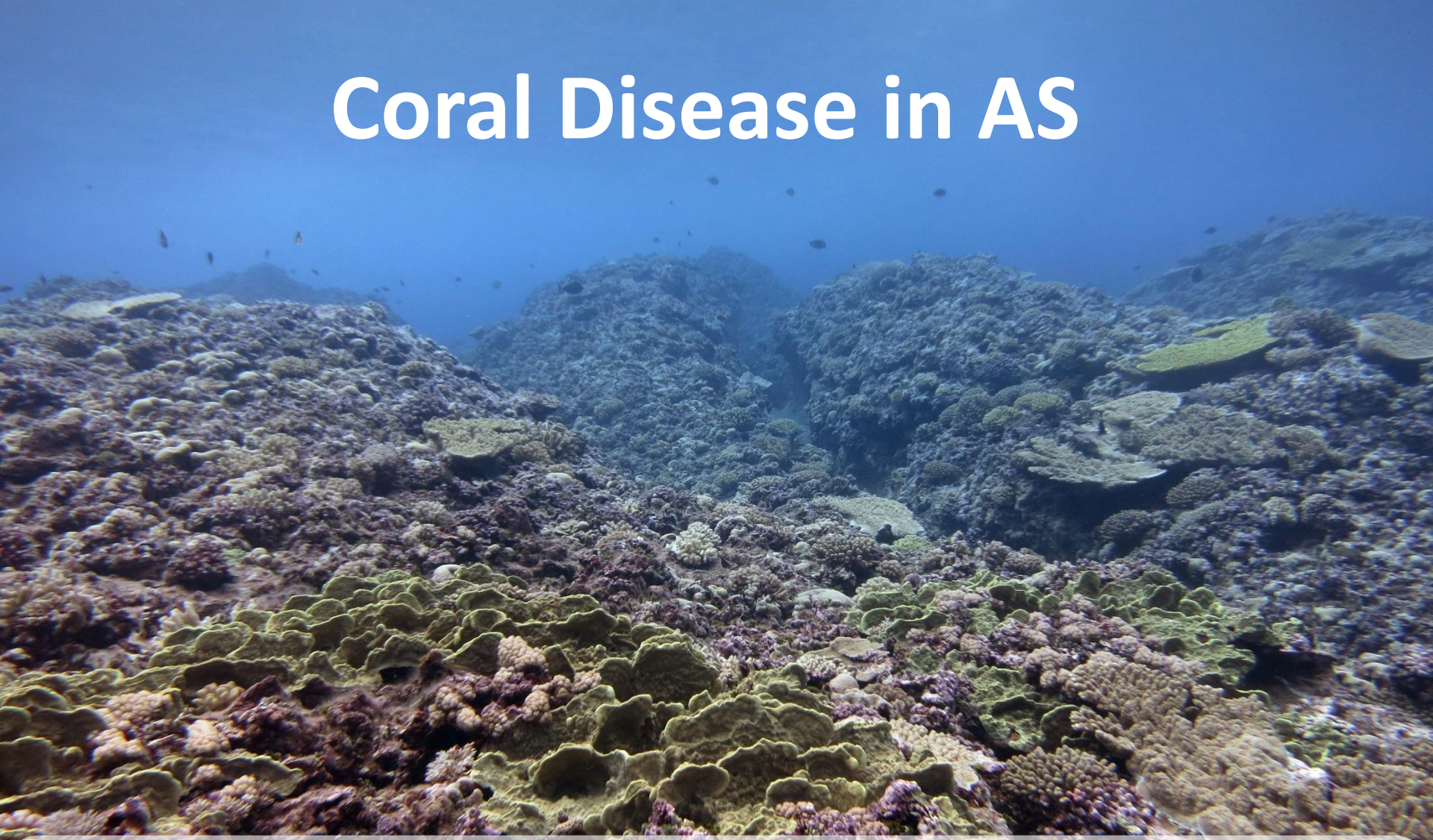
Coral Disease in AS



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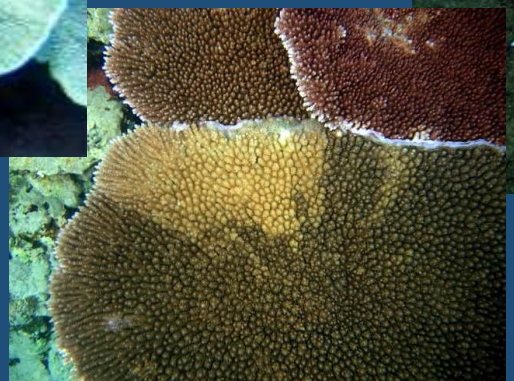
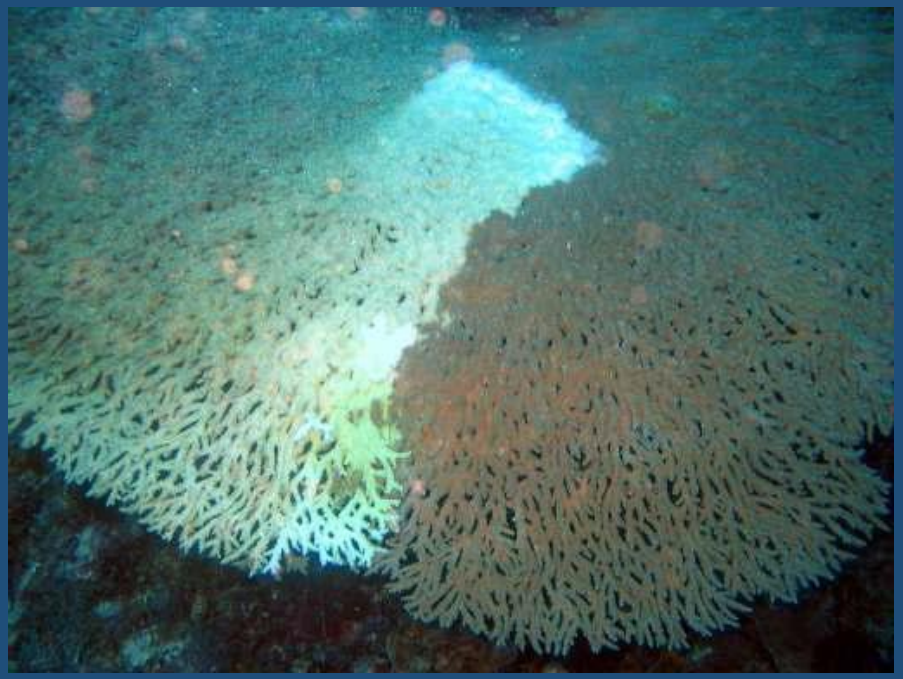
Coral diseases in AS

- Variety of coral diseases documented by Doug Fenner
- “white-diseases” most common
- No strategic disease surveys in any of the local monitoring programs
- Coral Disease Workshop – Thierry Work
- Integrate basic disease surveys into the monitoring programs (documentation of observed diseases)
- Coral Disease Outbreak Rapid Response Team



Coral disease outbreaks

- *Acropora* white syndrome outbreak in the National Park (by the Pola) in May 2014
- No monitoring was conducted – impact on coral assemblage?
- Disease response team



Coral diseases in AS

- Aeby, Work, Fenner et al
- 12 coral diseases (2 CCA diseases)
- 0.18% avg. prevalence
- AWS and AGAs most common

- AWS more prevalent in species-poor NWHI

Proceedings of the 11th International Coral Reef Symposium, Ft. Lauderdale, Florida, 7-11 July 2008
Session number 7

Coral and crustose coralline algae disease on the reefs of American Samoa

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4) National Park Service, 1214 Middle St., Sullivans Island, South Carolina

Abstract. Surveys for lesions in corals were conducted at seven sites around Tutuila in June 2004 and January 2005. The objectives of the study were to document the distribution and prevalence of disease in the major genera of corals and crustose coralline algae, systematically describe gross and microscopic morphology of lesions in reef corals and determine whether there are seasonal differences in prevalence of disease. We documented 12 different coral disease states from the reefs of Tutuila and two diseases of crustose coralline algae (CCA). *Acropora* white syndrome, *Acropora* growth anomalies and coralline lethal orange disease were the most common diseases on the reefs of Tutuila. No seasonal differences were found in overall prevalence of coral or abundance of CCA disease. Histological analyses of coral lesions revealed that microscopic changes in tissues can be used to distinguish tissue loss due to trauma from changes due to disease, detect micro-organisms associated with certain types of discolorations and found that hyperplasia of the basal body wall was the hallmark microscopic appearance of *Acropora* growth anomalies regardless of gross morphology of tumors.

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doi:10.1155/2011/490198

Research Article

Coral Diversity and the Severity of Disease Outbreaks: A Cross-Regional Comparison of *Acropora* White Syndrome in a Species-Rich Region (American Samoa) with a Species-Poor Region (Northwestern Hawaiian Islands)

G. S. Aeby,[1] D. G. Bourne,[2] B. Wilson,[2] and T. M. Work[3]

RESEARCH ARTICLE

Bacterial communities associated with healthy and *Acropora* white syndrome-affected corals from American Samoa

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Abstract

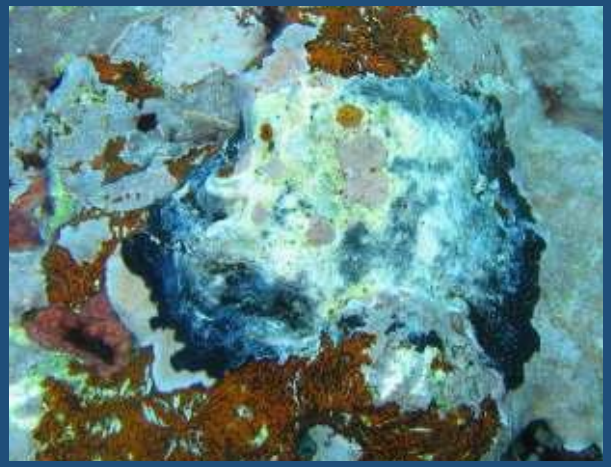
Acropora white syndrome (AWS) is characterized by rapid tissue loss revealing the white underlying skeleton and affects corals worldwide; however, reports of causal agents are conflicting. Samples were collected from healthy and diseased corals and seawater around American Samoa and bacteria associated with AWS characterized using both culture-dependent and cultu[illegible]thods.

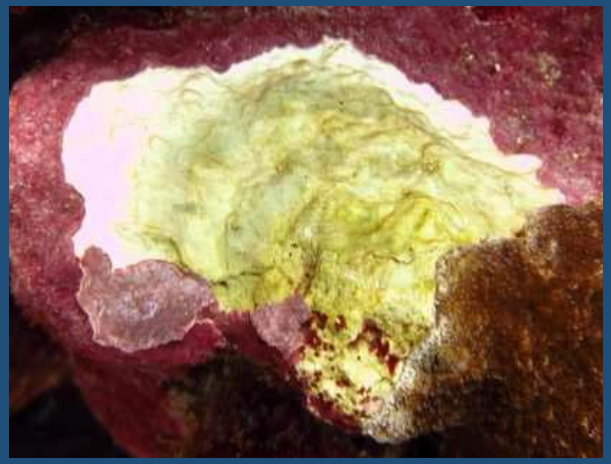
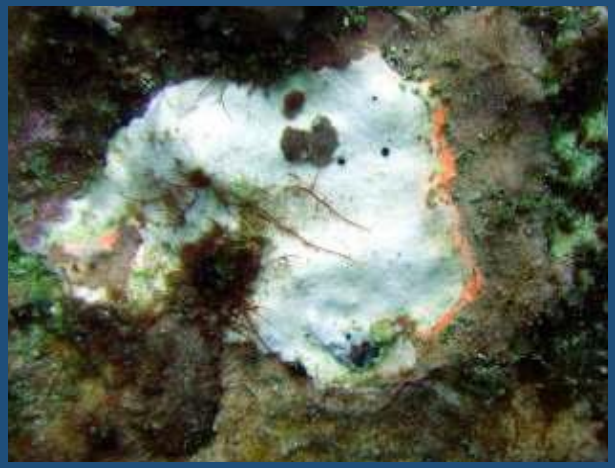
CRED Benthic survey: Summary Feb-Mar 2015

	# of sites	TL # colonies surveyed	% bleaching	% disease	% COT predation
Ofu & Olosega	31	6291	5.9	0.6	0.0
Rose	29	3459	2.3	1.0	0.2
Swains	18	3478	10.6	1.6	0.0
Tau	21	5371	1.0	0.7	0.0
Tutuila	89	12995	8.2	0.8	0.1

CCA diseases

- 6 CCA diseases recorded by Doug Fenner
- No information on prevalence or impact on reefs
- Presence/absence recorded in CRED benthic surveys




Collaborations and research needs/gaps

- Baseline surveys from which to detect change
  > permanent priority sites or wide-scale disease surveys – prevalence, diversity
- Impact on coral reef functioning
- Effect of land-based pollution on disease prevalence
- Most susceptible species
- CCA diseases – prevalence, diversity, impact